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Educational Tool for Chronic Low Back Pain Interventional Procedures and Modalities

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Educational Tool for Chronic Low Back Pain Interventional Procedures and Modalities

A Benchmark Study

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Contents

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Executive Summary

Chronic low back pain is a problem for many people. Back pain can be debilitating in many patients. Many people become disabled every year due to back problems, and back pain is a multifactorial ailment (Kalleward et al, 2010). Safe and effective procedures and modalities for pain relief are key to providing excellent patient care. For many, finding relief for chronic low back pain can be extremely challenging. Many times, people rely on taking prescription medications that can be addictive, potentially dangerous, and often ineffective. There is an opioid epidemic in the United States and the rates of misuse and overdose of opioid medications is alarming. There is great need to utilize and promote other ways to manage chronic low back pain. Interventional pain management can be very helpful to patients and effective in helping them cope with their chronic low back pain. Interventional pain management utilizes a wide variety of modalities and procedures that can help reduce pain. Interventional procedures can potentially reduce pain and increase quality of life (Veizi and Hayek, 2014).

Unfortunately, many times people want a quick fix to their pain problem, and medications are their go-to treatment of choice. There is a great need to educate people on the dangers of this route, as well as educating them on the potential benefits of interventional procedures/modalities for pain relief. People may be hesitant to seek interventional procedures/modalities because they believe they will be very painful, expensive, or simply just not work for them. Educating patients is key. Patients need to be educated not only on the dangers of taking potentially dangerous and addicting medications, but also on the potential benefits of interventional procedures/modalities.

1. Rationale for the Project

According to the National Institute on Drug Abuse, over 125 people in the United States dies every day from overdose on opioid medications (National Institute on Drug Abuse, 2020). There are a multitude of interventional pain management procedures and modalities available to patients, but there is a lack of knowledge related to this topic. Patients suffering from chronic low back pain could potentially benefit from such procedures and have a better quality of life with less pain, as well as potentially reducing the need for potentially dangerous and addictive pain medications. The evidence supports that interventional pain procedures/modalities should be considered when appropriate as a modality for pain management as they can be effective for many different causative factors for low back pain. There is a great need to communicate this information to patients, and providers to unsure the best evidence-based care is provided. Utilizing modalities other than potentially dangerous and addictive pain medications is key to keeping people as safe as possible, especially when our nation is faced with an opioid crisis. Many times, patients only seek the care of pain management specialists after they have become dependent on medications, and have the mindset that there are no other options for them. It can be a very difficult and cumbersome task to try to inform and educate on the other modalities available. This project will ultimately be an educational tool that can easily be utilized to provide valuable information to those suffering from chronic low back pain, and empower them to make the best choices for their health.

1.1 Project Goals

The goal of this Benchmark Project was to raise awareness of the interventional procedures and modalities available, and the importance of utilizing the safest and most effective treatment options available for managing chronic low back pain. The idea that pain can only be

relieved by medications is one that needs to be addressed. A lack of education, or possibly the desire for an easy or quick fix, may contribute to the current opioid epidemic we are facing in our country. There is a great need to share with the public, as well as other providers within the community, the dangers and potential abuse and dependence of some medications, and other options to provide pain relief and improving quality of life for those suffering from chronic low back pain.

By creating an educational tool that is readily available, easily accessible, entertaining, and easy to understand, patients can be made aware of the many options available for managing chronic low back pain, and no longer think that potentially dangerous and addicting medications are their only option.

2. Literature Discussion

A review of literature was conducted and many articles and studies were found to support the use of interventional procedures and modalities for reducing chronic low back pain. The literature consists of a variety of studies including but not limited to prospective randomized studies, experimental studies, retrospective quantitative studies, retrospective observational studies, retrospective studies on prospectively collected data, randomized control trials, and prospective clinical studies. These studies reveal that there are many different causes of chronic low back pain, and many different interventional procedures and modalities that can be performed to reduce pain.

Low back pain can be caused by lumbar facet joints, and approximately 15-40% of patients who presented with chronic low back pain were due to pain in the lumbar facet joints (Al-Najjim, Shah, Rahuma, & Gabbar, 2017). The effectiveness of transforaminal epidural

steroid injections in patients with degenerative spondylolisthesis and isthmic spondylolisthesis was compared and the study showed that patients with degenerative spondylolisthesis had higher successful treatment rates and longer pain relief than those with isthmic spondylolisthesis, although both did have decreased pain (Sencan, Ozcan-Eksi et al, 2017). In a retrospective quantitative study, the efficacy of active soft tissue releases alone or in combination with trigger point block in relieving back and/or leg pain was evaluated. The study determined that "manual therapy with active soft tissue release and a trigger point block constitutes an effective treatment combination for low back pain and leg pain, but prolonged treatment is required in chronic cases" (Kameda & Tanimae, 2019). Comparison of the effect of hydrotherapy-based exercises and conventional physiotherapy in chronic nonspecific low back pain was performed and it was concluded that significant improvement was seen in those who underwent conventional therapy and hydrotherapy (Sawant & Shinde, 2019). In a prospective clinical study caudal epidural steroid injection versus transforaminal epidural steroid injections were evaluated for efficacy and a larger number of patients with stenosis showed pain relief with transforaminal injections at six months than those with caudal injections, but both did provide pain relief (Ploumis et al., 2014). Patients treated with interlaminar steroid injections showed sufficient short-term pain improvement and marked reduction in the amount of pain medication needed (Zarghooni et al., 2015). Correlation of quality-of-life scores showed statistical improvement with lumbar epidural steroids in chronic low back pain (Singh et al., 2016). Transforaminal epidural injections provided significant short-term pain relief and when combined with pulsed radiofrequency higher efficacy is achieved (Wonuk et al., 2015). For pain caused by the Sacroiliac joint, the ultrasound guided injection method was observed as an effective modality in reducing pain among patients with Sacroiliac joint dysfunction (Wallace, 2018). It was concluded in one

retrospective study that fluoroscopy guided transforaminal epidural steroid injection has beneficial effects on lumbar radicular pain (Sariyildiz et al, 2017).

The review of evidence has shown that many different types of interventional pain procedures/modalities can be effective in decreasing chronic low back pain, and should be considered as an effective modality for decreasing chronic low back pain. Patients suffering from chronic low back pain could potentially benefit from such procedures and have a better quality of life with less pain, as well as potentially reducing the need for potentially dangerous and addictive pain medications. The evidence supports that interventional pain procedures/modalities should be considered when appropriate as a modality for pain management as they can be effective for many different causative factors for low back pain. There is a great need to communicate this information to patients, and providers to unsure the best evidence-based care is provided. Utilizing modalities other than potentially dangerous and addictive pain medications is key to keeping people as safe as possible.

3. Project Stakeholders

The key stakeholder in this change project includes the physician owner at Coastal Spine and Pain Institute. The physician owner will be involved in this change project as he is invested in the practice and has great interest in ensuring quality of care within the practice. He also has a direct hand in all decision making related to clinical practices, and will be the final say in the implementation of the project within the facility. This project will be an opportunity for interpersonal involvement and promoting engagement from staff at many levels to develop success within the environment (Melnyk & Fineout-Overholt, 2015, p. 205). Patients suffering from chronic low back pain will also be stakeholders, as this change project directly pertains to a

problem affecting them. By involving those who have a vested interest in the project process and eventual outcome enhances the overall success.

4. Proposed Outcomes

The desired outcome for this Benchmark Project is to provide an educational tool to those suffering from chronic low back pain. The educational tool will provide evidence-based information about procedures and modalities that can be utilized to relieve chronic low back pain. By providing this information, the patients can become knowledgeable and empowered to make the best and safest decisions for their health. Additionally, the proposed outcome would include a reduction in the use of potentially dangerous and addicting medications for relief of pain, and increasing the utilization of appropriate interventional procedures and modalities.

5. Evaluation Design

Evaluation of this project will include a voluntary survey of patients who have had the opportunity to take advantage of the educational tool. This survey will include questions that will help determine if and/or how the educational videos have affected their treatment choices. The survey has not been fully developed at this point of the benchmark project, but will be completed during the implementation phase of the future project.

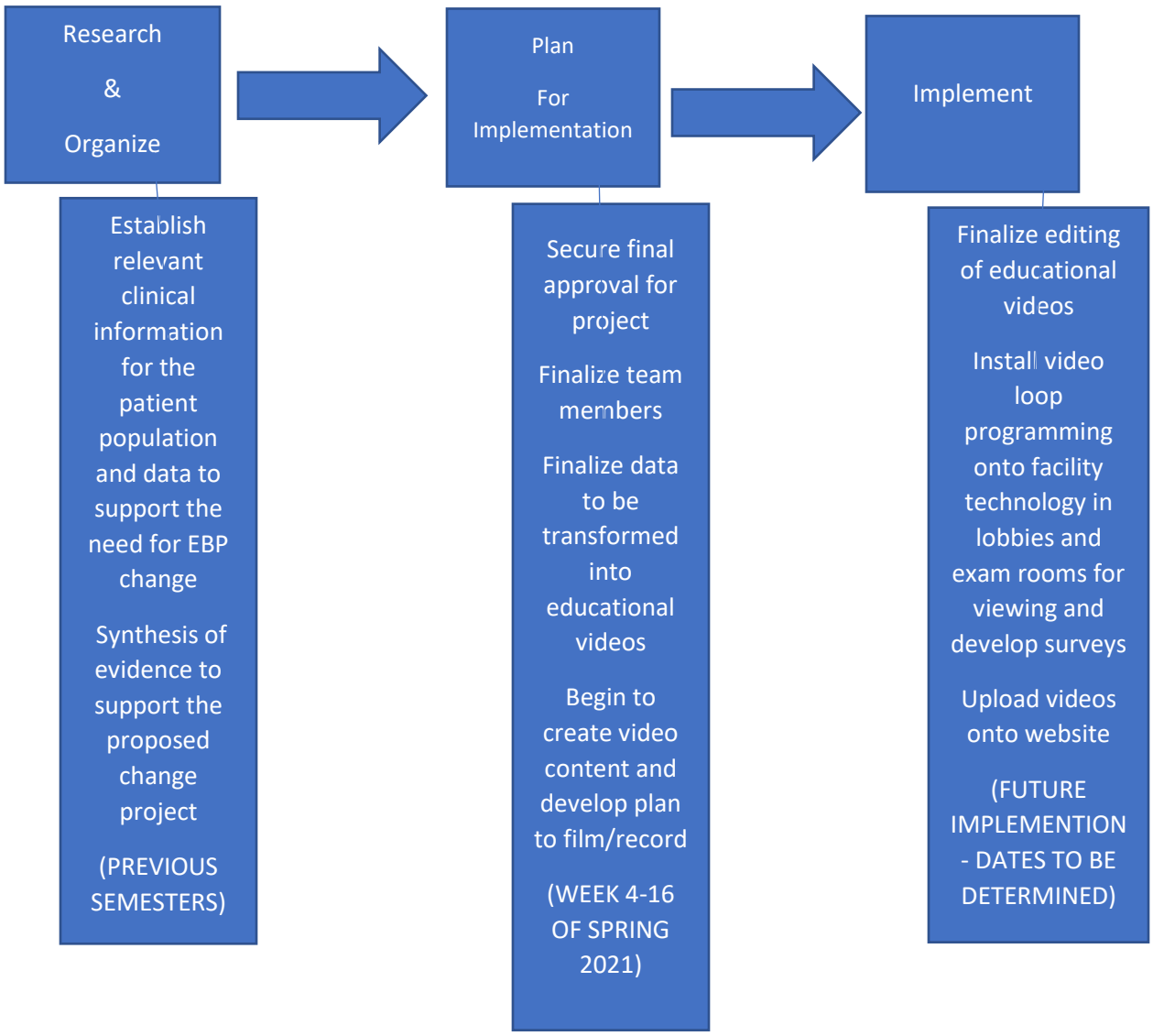
6. Timetable/Flowchart

In previous semesters leading up to the current Capstone course, there were many steps which paved the way for this project. The first step included the development of the PICOT question. Translational Science I & II, as well as Organizational Systems and Leadership provided important groundwork for development of the clinical question and the subsequent evidence evaluation. Once a relevant clinical question was developed, data to support the need

for evidence-based change was obtained. Synthesis of evidence was conducted to support the change project being proposed.

The initial Capstone project and implementation was not possible due to restrictions and unforeseen circumstances caused by the COVID-19 pandemic. Therefore, the change project was converted to a benchmark project in the Spring of 2021 Capstone course. During the Capstone course, many important steps were completed including obtaining final approval for the project with stakeholders, finalizing team members, determining specific data that would be transformed into the educational videos. The beginning steps of creating video content and planning for filming was set into motion. The proposed project plan flowchart is included below. Please refer to Appendix A for additional information related to major project steps.

Project Plan Flowchart



7. Data Collection Method and Evaluation Discussion

The main question to be answered is whether or not the educational tool is effective in educating patients on interventional procedures and modalities for managing chronic low back pain and reducing the use of potentially dangerous and addicting medications. There is no

official evaluation of this benchmark project currently. In order to accomplish this, data will be collected from patient surveys from a select patient population within the clinic. Survey results will be reviewed and data will be evaluated. To gauge whether or not the project is considered to be successful will depend on the educational tool's influence on patient decision making. If the outcome shows that more patients decide to utilize interventional procedures and modalities after viewing the educational videos, that would be considered a success.

8. Costs/Benefits

Cost of this benchmark project has been analyzed in terms of participants, office supplies, IT and videography expenses. The physician owner who will be performing the actual teaching in the videos has kindly donated his time, so there is zero cost. The administrator and IT staff involved are salaried employees, and the physician owner has graciously stated that any time spent towards the project will be during regular working hours and therefore considered as donated/absorbed. Cost for office supplies such as paper, ink/toner, etc., is expected to be minimal and not to exceed $200. IT and videography equipment and supplies will be the costliest component of the project, and is expected to range from $1000 to $3000.

There are potential financial benefits to the practice to consider. Patients who choose to have interventional procedures performed will potentially increase. This in turn increases the procedure payments received by the practice. This potential return on investment makes the cost of the project worthwhile.

It should also be noted that improving the lives of patients suffering from chronic low back pain and improving their safety by reducing or eliminating the need for potentially dangerous and addicting medication is by far the most valuable component of this project.

Conclusions/Recommendations

Many people of all ages suffer from chronic low back pain. The need and responsibility to provide safe and effective evidence-based care to patients is top priority. Patients should be educated on all of the available treatment options in order to make informed decisions. These educational videos will help patients know that there are many options available to them other than potentially dangerous and addictive medications to help relieve their chronic low back pain. The knowledge gained will help empower patients to make the best decisions for their healthcare. Providing this type of evidence-based information in this format can potentially improve the knowledge and health of the patients who are seved in this practice location. It is recommended that educational tools be developed and utilized within the practice setting to improve and enhance patient care and safety. A strong recommendation is also made for masters prepared nurses to utilize evidence-based practices as the basis for providing care. The success of this project will hopefully lead to additional educational videos being created in the future to address other forms of chronic pain.

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Appendix A

Major Steps Toward Project Plan and Future Implementation

- Prior semesters:

  Research and organize-

  1. Develop PICOT question
  2. Establish relevant clinical information for the selected patient population and data to support the need for evidence-based change
  3. Synthesize the evidence to support the proposed change project

- Spring Semester 2021

  Planning for implementation-

  1. Secure approval for project
  2. Selection of team members and roles
  3. Select and Finalize data to be transformed into educational tool/videos
  4. Begin creating scripting and video content and development of plan to film/record
  5. Obtain spine models, pictures, and other visual aids to enhance viewer learning

- Future (dates to be determined)

  Implementation-

  1. Rehearse and record educational videos
  2. Edit videos
  3. Install loop programming onto facility technology in lobby areas and in exam rooms for viewing
  4. Upload videos onto website

5. Develop surveys
6. Administer surveys and review results